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Solid advice: complementary feeding experiences and use of guidance among disadvantaged parents in two countries.

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Abstract

The initiation of complementary feeding (CF) (introducing infants to food/drink other than milk) is recommended close to six months, and not before four months of age. Low socioeconomic status (SES) is a determinant of non-adherence to CF recommendations, but there is an evidence gap around reasons for non-adherence among these parents. This study investigated knowledge, attitudes and practices of disadvantaged families (in terms of SES and social support), and use of guidance for CF, in the Republic of Ireland and Northern Ireland.

Parents of infants aged 3-14 months were recruited via community groups. Semi-structured focus groups aided by vignettes were used. Data were analysed using an inductive thematic approach.

Nineteen focus groups took place with parents (n=83). A range of factors influence parents when introducing solids. Sources of guidance extend to family, friends, the internet and commercial resources. Parents experience uncertainty and anxiety during this time, driven by lack of knowledge and conflicting advice. Five major themes were identified: 1. More guidance which is accessible, timely and respectful needed; 2. The challenge of choosing safe, nutritious food; 3. 'Everybody has an opinion' 4. Feelings of inadequacy, embarrassment and guilt; 5. Decisions are ultimately based on individual circumstances.

CF advice should be culturally appropriate, practical and empowering, emphasising the rationale behind updates to recommendations and consequences of non-adherence. Future training of health professionals for delivery of CF advice and guidance should consider these findings. Compliance with CF recommendations is influenced by health professionals, the wider family and the commercial baby-food sector.

Introduction

Within the first year of life, infants undergo the transition from a solely milk-based diet to ideally consuming an array of foods. Complementary feeding (introduction of foods/drinks other than milk) (CF) is unnecessary before six months of age (Fewtrell et al., 2017), at which time infants are developmentally able to begin eating solid foods. In addition to the timing of CF, parents are advised to feed responsively (Hurley et al 2011), to avoid salt and sugar, whilst ensuring exposure to a variety of tastes and textures (Scientific Advisory Committee on Nutrition, 2017). Supplementation with vitamin D is recommended in the UK and Ireland, (FSAI, 2013; Scientific Advisory Committee on Nutrition, 2016) with supplements of vitamins A and C also recommended in the UK (National Institute for Health and Care Guidance, 2008).

In considering these recommendations, and all other responsibilities of caring for an infant, parents encounter challenges in adhering to infant feeding guidelines. These include mistrust of guidance from health professionals (particularly if they do not have children), early solid feeding to promote sleep, conflicting advice and distractions of daily life/lack of time as barriers (Matvienko-Sikar et al., 2017; McAndrew et al., 2012; O'Donovan et al., 2015; Redsell et al., 2010; Russell et al., 2016; Tarrant, Younger, Sheridan-Pereira, White, & Kearney, 2010). Nationally representative data from the Republic of Ireland (ROI) showed that 14% of infants received solids by 16 weeks (Castro, Kearney, & Layte, 2015) while in Northern Ireland (NI), the most recently available data suggests that 35% of infants received solids before 17 weeks (McAndrew et al., 2012). Survey data from both the UK and Ireland have shown that parents experiencing low socioeconomic status (SES) are less likely to follow feeding guidelines (Castro, Kearney, & Layte, 2015; O'Donovan et al., 2015; Wright, Parkinson, & Drewett, 2004). In the ROI, 41% of parents reported not receiving advice on CF

from a health professional (HP) (Tarrant, Younger, Sheridan-Pereira, White, & Kearney, 2010) whilst a survey of practitioners highlighted shortcomings in knowledge of the formal recommendations among HPs, despite being cited on parenting resources as sources of advice (Allcutt & Sweeney, 2010). A recent qualitative evidence synthesis regarding parental experiences of CF (Matvienko-Sikar et al., 2017), illustrates a striking gap in qualitative evidence from vulnerable families or those classified as low SES. Studies targeting this demographic were largely US and Australia-based, with limited evidence from European families experiencing disadvantage. Studies included in the synthesis were also reported to be of low to medium quality. Thus, there is a need to explore the attitudes and practices to CF guidance among parents in Europe who are at a disadvantage, to identify potential barriers as well as facilitators to navigating CF guidance among parents fitting this demographic. Exploration of the role of social factors such as the influence of relatives and health-care staff on CF has also been called for (Castro et al., 2015).

Health systems in the ROI and NI differ considerably, including the timing of family visits during the early years. As a result of entirely different departments of health, everything from training of health professionals (National Health Service in the UK vs Health Service Executive in Ireland), scheduled appointments for new parents (0-14 days, 6-8 weeks, 14-16 weeks, 6-9 months, 12 months in NI vs birth, 3 months, 7 months, 9-12 months in ROI) (Health Service Executive, 2018; Public Health Agency, 2010) and sources of formal recommendations are different. No study has explored CF practices among disadvantaged families across different health systems, where CF recommendations are similar but guidance and support for families to meet recommendations differ.

Given the lack of qualitative data on CF guidance among disadvantaged families, this paper sought to explore:

1. The knowledge, attitudes and practices of parents on the island of Ireland who experience disadvantage, in relation to introducing complementary foods to their infant;

2. The key sources, and use of guidance by parents during CF.

Key messages

- CF is an anxious time for many families, who perceive current formal guidance as insufficient.
- Timing of health professional visits, conflicting advice, changing recommendations and lack of specific practical advice make complementary feeding challenging.
- Culturally appropriate guidance, the influence of the wider family and the commercial baby-food sector need consideration when promoting or measuring compliance with recommendations.

Methods

Recruitment

Recruitment was undertaken using purposive sampling through community groups engaged with the target group. Parents with one or more of the following indicators of disadvantage were specifically targeted: low-income, low-educational attainment, one-parent families, migrants, ethnic minority, < 20 years, living in social housing/direct provision, unemployed or with little/no support. Both traditional socio-demographic characteristics and emotional and practical support networks were considered important given the literature to date. Researchers targeted those with an infant aged 3-14 months to capture parents who might start CF early, as well as those who were at various stages of the process, including preparation.

Researchers contacted community groups by email or telephone and provided study information. When gatekeepers agreed, information sheets and screening questionnaires (to determine inclusion criteria) were given to potentially eligible parents, who were then invited to a focus group in a community centre in various towns and cities in Ireland. All parents who took part received an information sheet in advance of the focus group, and signed a consent form to confirm that they read and understood it, and were willing to join the study.

Design

A qualitative design was used, in line with guidance by Tong et al (Tong, Sainsbury, & Craig, 2007), consisting of focus groups in both the ROI and NI. Focus groups were chosen to encourage interaction and sharing of experiences among the parents themselves, and efficiency in collecting data in various towns and cities.

A topic guide (Table 3) was developed using the literature on parental experiences of CF. Questions were related to current CF practices, reasons for starting solids, worries/concerns, prior experiences, guidance received, choosing food and drinks, vitamin supplementation and issues which require additional guidance. The term 'weaning', rather than CF is widely used in the ROI and NI, and was thus used in the study by researchers and parents.

Vignette scenarios, used for studying and discussing highly sensitive subjects (Jackson, Harrison, Swinburn, & Lawrence, 2015), were developed and incorporated into the topic guide (Table 3). These comprised descriptions of hypothetical characters and situations, based on the literature, which parents may not have otherwise voluntarily raised. They covered sleep disturbance, conflicting guidance on CF, changes in recommendations, allergies, food safety and sugary foods and drinks.

A second health and demographic questionnaire was administered to participants during the focus group sessions. Items included in the questionnaire were taken from previous surveys

(Central Statistics Office, 2011; Geaney et al., 2013; Morgan, McGee, Watson, Perry, & Barry, 2008; Quail, Williams, McCrory, Murray, & Thornton, 2011), with wording amended where necessary, following stakeholder review and piloting.

The questionnaires, topic guide and vignettes were reviewed by key stakeholders including health professionals, academics and parents from disadvantaged areas. Two pilot focus groups (n=6), recruited via social media, were conducted to ensure the appropriateness of the questions and timing of sessions. As no changes were made to the research tools, these data have been included in the results.

All focus groups took place in community centres or similar venues with which participants were familiar, and participants were invited to bring their baby. Refreshments were provided for parents and soft toys for babies. After the focus groups, a nominal store voucher was offered to participants as a token of gratuity. Researchers also offered to reimburse travel costs for participants.

LT, ES and VAW facilitated all focus group. In most sessions, a second researcher was present to take notes to capture expressions, pauses or characteristics of the conversations which the transcript may not, which helped to provide context during analysis. For some focus groups, gatekeepers were present. Sessions lasted approximately one hour. Data collection concluded once the team felt that data saturation had been reached.

There was no sample size calculation carried out given the qualitative nature of the project, and rather, researchers analysed the data throughout the recruitment and data collection phase, in order to identify and agree on a point of data saturation (Mason, 2010).

Analysis

Focus groups were audio recorded and transcribed verbatim. Researchers (LT, VAW & ES) read the transcripts repeatedly before coding with QSR NVivo software. The thematic approach (Braun & Clarke, 2006) was used for analysis. An analysis plan was discussed in advance by research teams in each country, and coding of transcripts were conducted separately before comparing codes. Open-coding took place initially whereby descriptive codes were added to the text to make initial sense of what the data comprised. These were developed in a second round of coding. Codes were merged, reorganised or discounted where necessary and developed into sub-themes collaboratively with an iterative process, until major themes were agreed on. Codes and themes were reviewed between countries but no clear differences emerged and thus data are presented together. Where specific local issues from one country or divergent ideas emerged, these are highlighted within the results. Final codes were recorded in a code book, and demonstrated in a coding tree. A sample of the coding process in the development of a theme can be seen in Table 4.

The researchers who facilitated the focus groups and carried out data analysis had backgrounds in nutrition, dietetics and psychology, and all had experience in maternal/child nutrition research. One of the facilitators had significant qualitative experience, whilst the two others received qualitative training in addition to guidance from experienced team members. We attempted to overcome potential bias through consultation with a wide and diverse set of stakeholders during development of the research tools (Dingwall, 1992). Moreover, the multidisciplinary team discussed codes and themes and also sought advice from an expert qualitative researcher. However as a team we acknowledge that this does not eliminate the possibility of researcher bias in the analysis.

Ethical approval

Ethical approval was obtained from institutional Research Ethics Committees in both jurisdictions.

Results

In total, 19 focus groups (n=83) were conducted across nine different counties. Eleven groups took place in the ROI (n=46), eight in NI (n=37). Focus groups ranged in size from 2-7 participants. The mean participant age was 30 years (range 16-47 years), and mean infant age was eight months (range 3-18 months). Four infants (6%) had been given solid foods before four months of age and 54 infants (65%) had been breastfed at some point.

Participant demographic characteristics are presented in Table 1 and infant characteristics in Table 2. Almost half (47%) of participants were not employed, whilst 15% belonged to an ethnic minority group. A fifth (21%) of participants were single parents. Overall, three quarters of the participants (n=61) met one or multiple indicators of disadvantage.

(1) More guidance which is accessible, timely and respectful needed

In discussing the formal support received for introducing CF to the infant's diet, a number of key issues arose. Guidance for CF is time-sensitive and there is a window just prior to, and in the initial stages of CF, within which parents want to receive advice in order for it to be useful, relevant and helpful to them. The available guidance also seemed to fall short of preparing parents for all aspects of CF. Information received too early or late, which commonly happened, was of no use.

"When you're given all that when you leave the hospital, like obviously your head's not in the right space, but it's definitely too early like… my public health nurse went through it with me at the three-month check-up as well, but it was still way off." [Participant 028, ROI]

There was no consensus on the best method of delivering CF advice, with books, websites, weaning classes and talking to a HP suggested. Parents differed in the value they attached to HP advice; some regarded this as gold standard and others expressing mistrust or a sense that their own knowledge and experience was superior. Some felt that HPs simply rhymed off advice that they had to give, whilst others felt that HPs with no children were less qualified to offer advice.

"Yeah a lot of health visitors don't have children. And it's okay to turn around and say it from a leaflet, you know…but they're not the ones pulling their hair out at two o'clock in the morning, when they haven't had sleep for six months." [Participant 07-03, NI]

Trust was influenced by the rapport between a parent and HP, in addition to the manner and tone that advice was given, from the parent's perspective.

"Well I personally would have said it was the district nurse now that kind of confused me... I had my little ideas, my little bubble… 'don't do this' and 'you know, you shouldn't do this' and, that's the way that I felt that I was talked at, instead of talked to, if that makes sense?" [Participant 006, ROI]

In relation to updated guidance on the timing of CF, type of foods to be given/avoided, and advice such as supplementation with vitamin D, parents felt there was no rationale given for specific recommendations, and thus the guidance was at risk of being disregarded.

"Yeah I was a bit confused as to what the benefits were (laughs) of waiting until 26 weeks… but I think it's about allergens. I mean, I was hoping that… I don't really know (laughs)" [Participant 002, ROI]

Parents also perceived the information about CF stages and moving through the stages as insufficient such that parents were not confident when or how to move through the textures

and food types appropriately. Many parents, particularly those with older children, talked about how the guidelines changed frequently, which for some was a source of frustration and resulted in mistrusting the guidance and following their own instinct instead. Others appreciated that new evidence emerged and were keen to consult the guidelines, perceiving them to be an up-to-date source of information compared to other sources.

"I think so yeah I would now 'cos I've been through the four to six months where everybody's started weaning at eight weeks because it was four to six months and you couldn't wait to four months and it changes, it's constant…So everybody brings it forward anyway and does their own thing." [Participant 06-02, NI]

Despite this, some participants felt the guidelines lacked any information on 'modern' approaches to weaning, such as 'Baby-Led Weaning', and were frustrated there were no official recommendations around this.

Among participants in NI, there was general agreement that six months was the optimum time to introduce first CF. In the ROI, the range of ages at which CF is considered safe and optimal caused confusion among participants. Some parents wanted a definitive age for CF, and found the flexible nature of the advice too vague to implement.

"I was planning six months but when the GP said start… The guidance said around six months, he said five, the nurse said four." [Participant 030, ROI]

Commercial websites or recipe books marketed to new parents, which may not be evidence-based, were commonly used and in many cases were comforting. For some parents, having any kind of guidance in times of need diminished worries about adhering to recommendations.

"…until a friend gave me a book that she said was an absolute godsend… she gave me a book that had a table in it that recommended how many bottles, how many feeds, when do you start during the day… I didn't care if it was out of date or from a different country, just so I knew I wasn't over or under feeding him." [Participant 028, ROI]

There was no or variable knowledge of the recommendation for vitamin supplementation, and parents often discussed having received no information about this. Few were aware of the need for vitamin D from birth, including some breastfeeding mothers who felt their breastmilk was sufficient.

Issues with availability of supplements in NI, as well as the taste and cost of vitamins were also highlighted suggesting there are several barriers to complying with recommendations for 'Healthy Start' supplements, which are provided free to low-income families.

Most participants were motivated to actively seek information on CF practices. This was the case for participants who valued the official guidelines and for those who perceived it to be untrustworthy. A range of information sources were identified, and the internet was widely utilised, even though it was a cause of anxiety and fear.

"There's mums as well who like look up the forums and some of them are like 'yeah do this' and some of them are like 'oh God no everything will go wrong completely'!" [Participant 07-05, NI]

This concept of 'good' or 'bad' use of information extended to social media, with participants describing 'horror stories' and social comparison to other mums. On the other hand, participants cited social media sites as a method of accessing up-to-date evidence and advice on issues such as choking.

(2) The challenge of choosing safe, nutritious food

All parents were striving to do what they thought best for their baby in providing nourishment. However, parents showed varying levels of knowledge and comfort with making choices, particularly in relation to choosing foods with appropriate nutrients, textures and method of preparation.

For some parents, there was a relaxed attitude around introducing 'treat' foods, which was perceived as helpful in eliminating the sense of novelty around treats, whilst others wanted to set up good eating habits and felt that delaying treat foods as long as possible helps to avoid development of a 'sweet tooth'. Others did not perceive complementary foods as important sources of nourishment.

"I also would have been very, quite relaxed about the whole eating between six months and one year of age in that you know, you don't have to…it's more them learning how to eat and trying things out. You wouldn't have to be providing three balanced, completely balanced meals…at that age, you know" [Participant 013, ROI].

Commercial baby foods (CBFs) such as jars, pouches or any ready-made food for babies were described as a 'backup' or useful for convenience, especially when travelling. There was a sense that some CBFs were superior to others.

"Cos it is organic and, you know, somehow that's much better, you know?" [Participant 01-01, NI]

Others thought that CBFs were of superior quality than home-made foods. Sometimes CBFs were a preferred option because the age displayed on the label provided a sense of security that the contents were safe and appropriate. However, other parents thought CBFs caused

confusion because the age on the packaging ("from four months") differed from the formal recommendations, particularly in NI.

Two consistent worries expressed were the fear of choking and of allergic reaction. Parents were distressed by the uncertainty surrounding appropriate texture. This was an important influence on their feeding practices with the introduction of lumpy foods delayed much longer than recommended. Some parents' struggled to distinguish between gagging and choking, and were unaware that gagging was the normal response when babies learn to chew and swallow. A lack of first aid knowledge exacerbated parents' fear of choking.

Parents were also fearful of allergies and confused about the most up-to-date guidance. Eggs were consistently used as an example of a 'dangerous' food, and such fears were amplified by stories shared with others.

"And eggs, now it was my sister who frightened me about the eggs, she said 'oh my friend's child went into anaphylactic shock when they gave her egg', and I just waited with the egg till he was over a year. Then I gave it to him and he loves it. But…I am worried." [Participant 046, ROI]

Furthermore, for parents from other countries, their fears were different again with local foods unfamiliar to them and the warnings about specific foods and feeding methods overwhelming.

"Yeah, I was kind of worried that if I start the [baby rice brand] *that he would be having these kinds of issues, there's this thing called glutens and everything…we're not used to hearing it in Nigeria, we're not. So I'm just like, if I give this I hope he won't be reacting to it and everything."* [Participant 041, ROI]

(3) 'Everybody has an opinion'

Parents received an array of advice related to parenting and specifically infant feeding. This was a polarising topic, advice was often a comfort and necessity to parents, whilst others complained that they were given unwelcome advice that contributed to their distress. Family members, and in particular the infants' grandparents were regularly cited as sources of information/advice. Some discussed their own mother being their default source of guidance, and in some cases this advice was seen as superior to formal guidance.

"*The nurse in the doctors* [practice], *I thought she was good. It was her that I was actually speaking to about feeding so soon, and I was saying you know, that he was getting sick and she said 'they do say like four months, but if he needs food, he needs food'. But like, I was already going to do it anyway after talking to mam."* [Participant 005, ROI]

Other participants disliked receiving (uninvited) advice from family that was sometimes perceived as criticism. Many felt that information from grandparents was likely to be outdated. At times, parents felt pressure to go against their original feeding plans.

"Yeah every time I go down to [partner's] *mum's house he maybe or something has a wee cry and she goes 'I think he's hungry give him some solid foods he's a big boy he needs more than just your milk now'."* [Participant 08-04, NI]

Some participants also discussed friends with infants of similar ages, who were a source of reassurance and helpful advice. For others, friends feeding choices were in contrast to their own practices.

Culture and tradition played a role in some cases too, in relation to food types given and also the idea that grandparent practices 'did no harm' and should therefore be consulted. This

influence of family was seen also where there were special circumstances, and the highest level of trust placed in those closest to the parents;

"With allergies I kind of ignored the advice. Even though she's not allergic to anything, I did actually listen to my mam and my sister about foods. I felt that, the professionals didn't actually know our family history, that it was better to trust my own family when it came to that." [Participant 032, ROI]

(4) Feelings of inadequacy, embarrassment and guilt

Introducing solid foods represented a period of anxiety and highlighted a lack of self-efficacy from some participants' perspectives, and this was particularly apparent for first-time parents. Having had months to establish a routine of milk feeding and become confident with it, the transition to solids was often daunting. Parents' desire to do their absolute best was commonly accompanied by worry. Those whose infant was past the initial stages of CF however, conveyed more relaxed feelings as did parents with other children.

The lack of self-efficacy among some mothers around feeding their baby extended to embarrassment and no confidence to ask questions of HPs, feeling they 'should know'. This went hand in hand with fear of judgement from other parents also.

"I hated anyone watching me, like I was nervous like. If he doesn't take it, do they think I'm not doing something right or something?" [Participant 003, ROI]

The plethora of information and sources of advice available to parents also meant that some were not aware of revised recommendations until after they had begun CF, causing additional anxiety and feelings of guilt.

"And it makes it stressful… I'm thinking have I done something wrong now? Because she was exclusively breastfed, should I have waited to 26 weeks even though she was pulling the

food off my plate? So you do feel kind of guilty if you don't wait to the 26 weeks. It's a hard one to judge definitely. That's life… I think you feel guilty nearly everything you do." [Participant 021, ROI]

The notion of 'mum shaming' and peer approval was very evident; participants described how everybody has an opinion on how to raise a child and that there was a huge sense of judgement, often coming from other parents, and this could be seen as an influence on feeding decisions.

"No matter what, from when you were pregnant, it was like 'is there not two in there?', you know there's always opinions coming from every road and direction and it's just the same as everything else to do with weaning. Everybody has an opinion." [Participant 06-05, NI]

(5) Decisions are ultimately based on individual circumstances

Across both jurisdictions, the idea that 'every baby is different' was central to any decision made around feeding, with both experience and instinct overriding HP's advice, and parents ultimately basing CF decisions on their own personal circumstances.

"You take the advice but you're not actually going to 100% listen to them because…they have to give you that advice but you… I think myself, you know better." [Participant 010, ROI]

Oftentimes parents discussed going against the recommendations, dismissing them for not taking into account that 'every baby is different'. Commonly parents simply reported that the child 'seemed ready'. Some cited the baby staring at food or grabbing food from a plate, whilst others were less specific about their reasoning.

Some described seeking out information that supported their existing plans or beliefs, and others reflected on this period of transition as being more difficult than anticipated, having expected it to 'just happen naturally'.

Infant cues played just as important a part as external guidance in influencing parental decisions, and this was particularly evident for timing of first solid foods, especially for those who did so earlier than recommended. Waking up at night was regularly cited as a contributor to the perception that the infant was hungry, as well as staring at food or drinking what the parent felt was too much milk. Food labelling provided a protection in some cases;

"For a while with her I thought she wasn't getting enough bottles cos she was always hungry, and I was very tempted to put [baby biscuit] *in the bottle. But I didn't, I just waited because, you know the age that's on the* [baby biscuit]*, that's what put me off, so in the end I didn't put nothing in the bottle I just waited till it was time to feed."* [Participant 010, ROI]

Infant weight was another talking point for those who introduced solids earlier than planned or advised, with the notion of a 'big baby' going hand in hand with a parent feeling as though milk was not 'filling' the baby.

Once the baby had started CF, participants discussed factors that influenced the process itself. For example, baby's acceptance affected what foods to offer, such as CBF or homemade foods. Parents sometimes discussed that if a baby vomited after a certain food, then they would not offer that again. If a child did not finish a meal, this was seen as dislike for the food by some participants also, and a reason to avoid that food.

Finally, returning to work after maternity leave was a clear influence on CF prior to six months, because parents wanted to have solid feeding somewhat established before leaving

the child with another caregiver. This also had an effect on the types of foods offered, relating back to convenience.

The circumstances of the family were seen to impact practices, in that working mothers did not have as much time to dedicate to preparing meals for the baby. This was also the case for those who felt they lacked the social support needed; particularly when they had other children to care for and couldn't dedicate what they felt was the required attention.

"*I just find it very hard with three kids under five… my parents don't live close to me they live thirty mile away and my husband's parents live thirty mile away, I don't have family around me either so all the others are really old, you know? So I don't have anyone near me that could even help with the children."* [Participant 03-06, NI]

Discussion

This study explored the knowledge, attitudes and practices for CF among parents at a disadvantage on the island of Ireland; with a specific focus on the range and sources of advice provided and used by parents. Five major themes were identified in the data illustrating that CF is challenging, often coupled with worry and that decisions are dependent on families' distinct circumstances. The data suggest that current formal CF guidance is insufficient, and the timing of face-to-face visits reflects this. Given that everyone has an opinion to offer on CF, it is imperative that expert recommendations and guidance is trusted, practical, timely and delivered in an empowering manner. This study has highlighted that parents wish for specificity, rationale and consistency in the guidance, which they often turn to the internet and commercial sources for. This study will contribute to the evidence for policy makers and practitioners when updating and providing resources for parents on CF.

This study specifically focused on families at a disadvantage and from two countries with different health systems, staff and mode of guidance. The outcome of this, coupled with the available evidence, suggests that all families are challenged by CF and that advice that is delivered in an empowering way, cognisant of different family circumstances will appeal to everyone. Economic circumstances were not cited barriers to CF compliance, and it may be the case that lack of education prevented parents from seeking or checking information was evidence-based (Plantin & Daneback, 2009). The lack of clear differences in the themes between countries also suggests that the findings are likely to apply to other European families living in diverse societies, with different healthcare systems and where CF recommendations have changed over time.

Consistent with other research in the international literature, this study noted a lack of trust in HP advice and valuing infant cues over formal guidance (Anderson et al., 2001; Caton, Ahern, & Hetherington, 2011; Heinig et al., 2006; Matvienko-Sikar et al., 2017; Savage, Neshteruk, Balantekin, & Birch, 2016; Schwartz et al., 2013; Synnott et al., 2007), as well as the notion that 'bigger' and 'hungrier' babies require additional energy (Bentley, 1999; Redsell et al., 2010), with overweight being of less concern than having a 'thin' baby (McGarvey et al., 2006). The influence of the grandmother was evident in our study and is now well established (Bentley, 1999; Condon & Salmon, 2015; Pocock, Trivedi, Wills, Bunn, & Magnusson, 2010). The notion of being monitored and judged by others has also been reported in studies exploring parenting and infant feeding (Grant, Mannay, & Marzella, 2017). Previous studies have also documented phenomena which were less evident in the present study and may now be uncommon, such as addition of solid foods to infant bottles (Heinig et al., 2006).

The present study has a number of new and unconfirmed findings. The ROI & NI populations consist of 11% and 5% immigrants respectively (Central Statistics Office, 2017; Northern

Ireland Statistics and Research Agency, 2012), and those who are new parents face additional challenges of a new culture and environment including unfamiliar foods. Inclusive information and advice must be disseminated to account for diverse and changing populations. This is a challenge if there remains limited resources within health care systems to provide individualised and tailored advice. Concerns about returning to work have been cited as a barrier to extended breastfeeding in the literature (Heinig et al., 2006), and our study highlights this as an important barrier to delaying CF also.

Further findings include evidence of the misperception that introducing solids is simply a learning experience and not in fact a necessity to ensure appropriate nutrition and development. Moreover, the commercial baby food market plays a major role in when and what infants are fed (Walsh, Kearney, & Dennis, 2015). Food labels were influential to parents in this study, who are sensitive to all aspects of navigating food choice for their baby. The focus on 'organic' food, for example and the emphasis placed on this concept in terms of providing the optimal CF diet reflects a change in food systems, beliefs and values.

Strengths and limitations

Strengths of this study include qualitative insight from a diverse sample of parents who are at all stages of the CF journey. Thematic analysis allowed for an iterative and reflective process, which kept parents' experiences at the fore. Use of vignettes helped to stimulate discussion and reflection from parents. This study also has a number of limitations. There was just one father involved, leaving the results dominated by mothers' perspectives. Whilst parents from disadvantaged backgrounds were involved, families with very chaotic lives, or those less likely to engage with community organisations that we recruited from were not captured. HPs were not involved in this study and thus the findings only reflect parents' experiences of CF guidance and advice. Research with HP on training and delivery of CF advice is warranted. Further, whilst the research team aimed to capture parents more likely to experience

disadvantage, we acknowledge that the criteria used do not necessarily indicate low socio-economic status for every individual.

Conclusion

This study illustrates that parents view CF as an anxious time and express a desire for accessible information in multiple formats, outside current scheduled HP visits. Guidance should be culturally appropriate and indeed practical and specific, provided in the context of infant development, with emphasis on the rationale driving updates in recommendations and potential consequences of non-adherence. Future training of health professionals tasked with delivering CF advice should consider our findings.

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The authors have no conflicts of interest to declare.

Contributor statement

LT, VAW and ES recruited participants, facilitated focus groups and analysed data. LT contributed to the design of research tools and drafted the manuscript. PMK and JVW contributed to study design and management of the overall project. SMcH provided guidance for the qualitative analysis. MMcK and MD contributed to the study conduct and analysis in N. Ireland. CK obtained funding, designed the study, contributed to the design of research tools and managed the overall study. All authors contributed to editing and reviewing the final manuscript.

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Table 1 Participant demographics

Characteristic	n	%
Relationship to baby		
Biological mother	81	98
Biological father	1	1
Other primary carer	1	1
Place of birth		
ROI / UK	69	83
Other Europe	5	6
Africa	7	8
Asia	1	1
Not disclosed	1	1
Ethnicity		
White: Irish	66	80
White other	4	5
Irish Traveller	5	6
Black or Black Irish: African	6	7
Other Black	1	1
Asian	1	1
Education		
Higher education	46	55
Secondary education or equivalent completed	16	19
Secondary education or equivalent partially completed	13	16
Primary education	2	2
Not disclosed	6	7
Employment status		
Employed / self-employed	44	53
Unemployed	35	42
Long term sickness / disability	1	1
Student	2	2
Relationship status		
Married / cohabiting	60	7
Single	14	17
Separated	2	2
Divorced	1	1
Not disclosed	6	7
Social support		
Enough help	58	70
Not enough help	14	17
No help	4	5
Don't need any help	1	1
Not disclosed	6	7
Eligible for benefits*	40	48

**Medical card eligibility in ROI or Healthy Start eligibility in NI*

Table 2 Infant characteristics

Characteristic	n	%
Sex		
Male	38	46
Female	45	54
Age in months		
3-4	10	12
5-6	28	34
7-8	14	17
9-10	12	15
11-12	15	18
13-14	2	2
15-16	1	1
17-18	1	1
Breastfed		
Yes	54	65
No	28	34
Not disclosed	1	1
Age of breastfeeding cessation	(of those who BF)	
1 month or less	13	24
2 months	2	4
3 months	4	7
4 months	1	2
5 months	1	2
6 months	4	5
Still breastfeeding	25	30
Not disclosed	2	4
Age of first solid food		
2 months	1	1
3 months	4	5
4 months	15	18
5 months	18	22
6 months	23	28
7 months	2	2
Not yet	16	19
Not disclosed	4	5
Allergies		
None	81	98
Cow's milk protein allergy	2	2
Medical condition		
None	79	95
Reflux	3	4
Other (not disclosed)	1	1

Table 3 Topic guide

Topic guide	Prompts
Firstly, can we go around the room and get everyone's name, and maybe you could also tell us what age your baby is?	
Tell me a little bit about when you started weaning?	Have you started weaning? When did you start?
What made you decide when it was time to start giving solids, when do you think is the right time?	Anyone who hasn't started, how will you decide what age to start? Why that age? Is there anyone who tried to tell you when to start weaning? What age do most of your friends any family start weaning?
How is the weaning going? What stage are you at now?	Have there been any issues? Are you glad you started when you did?
I'm now going to read a short scenario and would like to hear your thoughts afterwards: "Sarah's daughter is 13 weeks old. Since about 10 weeks, she had been waking up only once throughout the night, but lately she has started waking up more often and seems really unsettled. Sarah's mother, who has five children, advises her to give the baby some baby rice – as that's what she used to do and it helped her children sleep. Sarah trusts her mother because she has been through it all before so knows what is safe, but worries because the leaflet she has says it is not safe to feed rice before 17 weeks. Sarah is exhausted from getting up during the night, and is tempted to listen to her mother, so that both herself, and the baby will get more sleep. After all, if Sarah's own mother did it and it caused no harm then it must be alright."	What dilemma is Sarah facing? Can you relate to Sarah's dilemma? What would you suggest to her? In your opinion, how could this problem be avoided? (The dilemma is dual: - to trust the mother or the leaflet? - to wean early or to wait?)
Did you / do you have any worries about weaning?	What were your worries? Was there anything else? Did any of these worries come through?
Has anyone weaned an older child before, and how has that affected your feelings about it this time round?	Do you find it easier this time? How so?
"Linda has three children, and the eldest is now a teenager. She is about to wean her youngest child who is just 20 weeks. She hasn't felt that she has needed any of the booklets that she gets from the midwife or public health nurse about weaning since she has done it all before. She feels that every baby is different anyway, so any guidance is not going to be relevant to her since she is experienced and knows her own baby best. From what she can tell, the guidance changes all the time anyway, so there is clearly no one way to feed her baby. She would prefer to do it her way."	What is the decision that Linda is now about to take? Have you ever felt any of the same feelings that Linda has around the guidelines, where you would rather trust your own judgement? Can you tell me a little more about why you feel the same way, or what influenced you to decide for yourself rather than with help from the information given?
Tell me about the guidance that *you* actually got yourself for weaning, and whether it was it helpful?	What kind of information were you given? Who gave you the advice?

	Did you find the guidance you got helpful? Did you feel that you knew enough about weaning? Did any of the guidance confuse you?
If you needed more advice about weaning, where or who would you go to?	Who would you ask if you weren't sure about what to feed the baby for example? perhaps you might ask the public health nurse or doctor? Or maybe you have a friend or family member who you trust to ask? Apart from people, have you found any material helpful like leaflets or websites?
What do you think would make weaning easier?	Did you feel like you were told enough about everything to do with weaning? What areas would you welcome more advice about? Support from friends, help with cooking skills, getting more information?
What kind of foods do you give the baby now, do you buy jars etc or make your own? What about drinks?	Food groups, spoon-feeding or baby-led, texture, commercial or home-made? How do you decide whether to buy foods or make them yourself? Prompt – perhaps cost, health, or trust in the brand, time? What are the advantages, if any? Does your baby like jar foods/ prefer them over home-made? Would you look for any particular things on or in a baby food to help you decide which to buy? Prompts - words on the label, or the price, list of ingredients or anything else, look healthy, baby's preferences
This next short story is related to the types of food to feed baby. I would like your thoughts. "Jack and Marie had their first child, and have waited until 6 months to wean because that's what most books and internet pages say to do. They are very nervous about weaning the baby because there seems to be so many rules to remember. They are worried about accidentally giving the baby salt or sugar, or a food that isn't suitable for babies. They find it especially hard because the weaning booklet says to try and give homemade foods, but they feel that if they give baby jars, at least they'll be sure the food is safe and it's easier for them too. There are lots of recipes on the internet for babies, but they don't know which ones they can trust to be safe. Some say to give eggs for example, but other people say they cause allergies if given too early. Others say to give certain foods earlier to avoid allergy - and they find it all very stressful and confusing."	What is the problem that Jack and Marie are facing? Have you ever worried about any of those things? Yes – what worries did you have about this? No – why do you think that is? Prompt – do you think because you had done it before? Or because the guidance you got was helpful / it was quite straight forward? What advice would you give to them? What do you thinks needs to be done, so that parents don't find everything about weaning so confusing?

Do you give your baby any vitamin supplements, or what you have heard about these, if anything?	Did you hear anythingabout vitamin D? (A,C & D in UK – Healthy start) Who from?
Here is the third and final scenario I would like you to hear. "Peter is having trouble avoiding giving his 14 month old son sweets because he has an older son who he sometimes buys treats for. The baby has started to show an interest in having the same foods and fizzy drinks as his big brother. Peter thinks it is better to just let the baby try these things too, so that it won't be as much of a novelty when he's older. Some of the other parents he has spoken to said they rarely let their babies have sweets, but Peter thinks that will just make them want it more. He'd rather let them have these things young, otherwise they will want them much more when they get older."	What are your views on Peter's practices on sweets? Do you think it's important to think about a healthy diet for the baby at this age? Yes – in what way? Why? No – why is that?
Is there anything else you would like to share or feel is important to add about anything related to weaning?	

Table 4 Demonstration of coding

Quote	**Initial coding sample**		**Sub-themes**	**Theme**
"It depends on the group that you're in. I'm in one or two of the really supportive groups, but then I'm also in a couple where like if you said you brought your baby out for a walk, they'd nearly attack you and go 'god you brought your baby out for a walk in the rain, oh my god you're such a bad parent'"	Friends, peers and family	Question parent's decisions	Judgement from others	Feelings of inadequacy, embarrassment or guilt
		Practices differ from friends or family		
	The internet	Can be another source of judgement		
		Source of help also		
"You're made to feel like you should know what you're doing, and you don't know where to go because you should know."	Confidence	Need confidence to ask advice	Lack of self-efficacy	
		Rely on others		
		Worried about what others will think		
	Fears and difficulties	Wish to seek help		
		Uncertainty		
"It is very frustrating. And it makes it stressful, because I weaned her at 18, 19 weeks and I'm thinking, have I done something wrong now? Because she was exclusively breastfed, should I have waited to 26 weeks even though she was pulling the food off my plate? So you do feel kind of guilty if you don't wait to the 26 weeks. It's a hard one to judge definitely. That's life… I think you feel guilty nearly everything you do."	Frustration/stress	Uncertainty about decisions	Guilt	
		Conflict in advice vs baby cues		
	Have I done something wrong?	Can't win		
		Regret		